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Application Number 10/539188

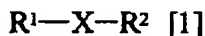
Supplemental Amendment to Amendment and Response filed on August 12, 2009  
responding to the Office Action dated May 12, 2009

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims:**

1. (Currently Amended) A method for deuteration of a compound represented by the general formula [1]:



wherein,  $R^1$  represents an alkyl group, an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aralkyl group, or an aralkyl group having at least one carbon-carbon double bond and/or at least one triple bond;  $R^2$  represents an alkyl group or an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aryl group, an aralkyl group, an alkoxy group, an aryloxy group or a hydroxyl group; X represents a carbonyl group or a hydroxylmethylene group;  $R^1$  and  $R^2$  may form an alicyclic ring together with a carbon atom contained in X; provided that  $R^2$  represents an alkyl group, an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aryl group or an aralkyl group when X is a hydroxylmethylene group, comprising reacting the compound represented by the general formula [1] under neutral condition with a deuterated solvent other than  $D_2O_2$  in the co-presence of an only one activated catalyst selected from a palladium catalyst, a platinum catalyst, a rhodium catalyst, a ruthenium catalyst, a nickel catalyst and a cobalt catalyst; provided that when the compound represented by the general formula [1] has at least one carbon-carbon double bond and/or at least one triple bond, the catalyst activated in advance is used as the activated catalyst.

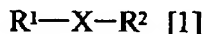
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2. (Original) The method for deuteration according to claim 1, wherein X is a carbonyl group in the general formula [1].
3. (Original) The method for deuteration according to claim 1, wherein X is a hydroxymethylene group in the general formula [1].
4. (Canceled)
5. (Previously Presented) The method for deuteration according to claim 1, wherein the deuterated solvent is deuterium oxide ( $D_2O$ ).
6. (Currently Amended) The method for deuteration according to claim 1, wherein the only one activated catalyst is one obtained by activating a non-activated catalyst selected from a palladium catalyst, a platinum catalyst, a rhodium catalyst, a ruthenium catalyst, a nickel catalyst and a cobalt catalyst by contacting with hydrogen gas or heavy hydrogen gas.
7. (Previously Presented) The method for deuteration according to claim 6, wherein the contact of the non-activated catalyst with hydrogen gas or heavy hydrogen gas is conducted in a deuteration reaction system.
8. (Currently Amended) The method for deuteration according to claim 1, wherein the only one activated catalyst is a catalyst comprising an activated palladium based catalyst.
9. (Original) The method for deuteration according to claim 8, wherein the activated palladium based catalyst is an activated palladium carbon.
10. (Canceled)

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11. (Currently Amended) A method for deuteration of a compound represented by the general formula [1]:



wherein,  $R^1$  represents an alkyl group, an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aralkyl group, or an aralkyl group having at least one carbon-carbon double bond and/or at least one triple bond;  $R^2$  represents an alkyl group or an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aryl group, an aralkyl group, an alkoxy group, an aryloxy group or a hydroxyl group; X represents a carbonyl group or a hydroxymethylene group;  $R^1$  and  $R^2$  may form an alicyclic ring together with a carbon atom contained in X; provided that  $R^2$  represents an alkyl group, an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aryl group or an aralkyl group when X is a hydroxymethylene group,

comprising reacting the compound represented by the general formula [1] under neutral condition with a deuterated solvent in the co-presence of an only one activated catalyst ~~selected from a palladium catalyst, a platinum catalyst, a rhodium catalyst, a ruthenium catalyst, a nickel catalyst and a cobalt catalyst;~~  
provided that when the compound represented by the general formula [1] has at least one carbon-carbon double bond and/or at least one triple bond, the catalyst activated in advance is used as the activated catalyst, and

the compound represented by the general formula [1] is tricyclo[5.2.1.0<sup>2,6</sup>]decan-8-ol, and the activated catalyst is a catalyst comprising palladium carbon ~~and platinum carbon.~~

12. (Original) Tricyclo[5.2.1.0<sup>2,6</sup>]decan-8-ol wherein deuteration ratio thereof is 60% or more.

13. (Previously Presented) The method for deuteration according to claim 1, provided that when the compound represented by the general formula [1] has at least one carbon-

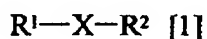
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carbon double bond and/or at least one triple bound, hydrogen gas or heavy hydrogen gas is not present in a deuteration reaction system.

14. (New) The method for deuteration according to claim 1, wherein the only one activated catalyst is a catalyst comprising an activated platinum catalyst.

15. (New) A method for deuteration of a compound represented by the general formula [1]:



wherein,  $R^1$  represents an alkyl group, an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aralkyl group, or an aralkyl group having at least one carbon-carbon double bond and/or at least one triple bond;  $R^2$  represents an alkyl group or an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aryl group, an aralkyl group, an alkoxy group, an aryloxy group or a hydroxyl group; X represents a carbonyl group or a hydroxymethylene group;  $R^1$  and  $R^2$  may form an alicyclic ring together with a carbon atom contained in X; provided that  $R^2$  represents an alkyl group, an alkyl group having at least one carbon-carbon double bond and/or at least one triple bond, an aryl group or an aralkyl group when X is a hydroxymethylene group, comprising reacting the compound represented by the general formula [1] under neutral condition with a deuterated solvent in the co-presence of an only one activated catalyst selected from a palladium catalyst, a platinum catalyst, a rhodium catalyst, a ruthenium catalyst, a nickel catalyst and a cobalt catalyst; provided that when the compound represented by the general formula [1] has at least one carbon-carbon double bond and/or at least one triple bound, the catalyst activated in advance is used as the activated catalyst, and

the compound represented by the general formula [1] is tricyclo[5.2.1.0<sup>2,6</sup>]decan-8-ol, and the activated catalyst is a catalyst comprising platinum carbon.